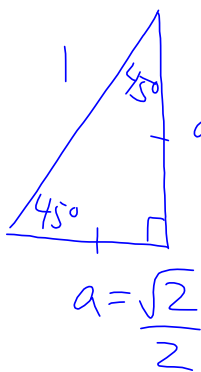


## 4.2 The Unit Circle cont.<sup>2</sup>

Sketch a right-isosceles triangle with a hypotenuse of 1.



$$a = \frac{\sqrt{2}}{2}$$

$$a^2 + a^2 = 1^2$$

$$2a^2 = 1$$

$$a^2 = \frac{1}{2}$$

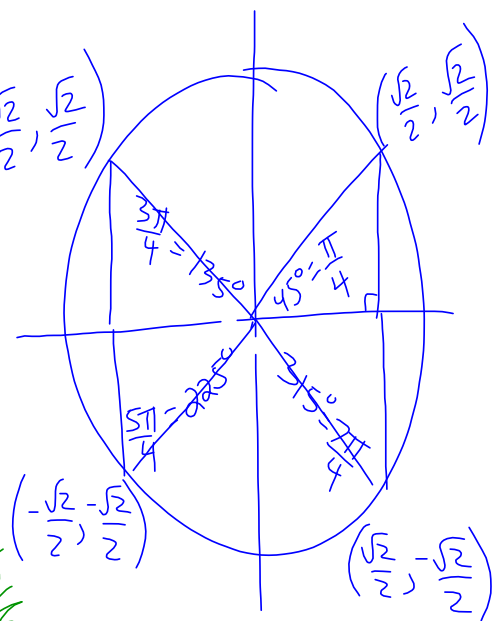
$$a = \pm \sqrt{\frac{1}{2}}$$

$$a = \pm \frac{\sqrt{1}}{\sqrt{2}}$$

$$= \pm \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

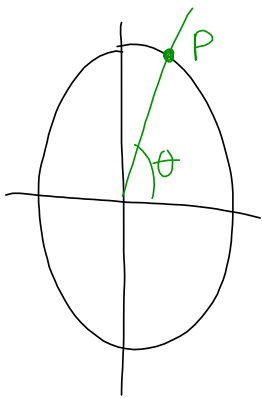
$$= \pm \frac{\sqrt{2}}{2}$$

$$\left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$$



## Textbook notation

$P(\theta)$  - point  $P$  is at the intersect of the terminal arm of  $\theta$  and the unit circle.



ex) Find  $P(\pi/3)$ .  $(\frac{1}{2}, \frac{\sqrt{3}}{2})$

ex) For  $P(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$  find  $\theta$ .  $210^\circ, \frac{7\pi}{6}$

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